



US 20180307282A1

(19) **United States**(12) **Patent Application Publication****Allin et al.**(10) **Pub. No.: US 2018/0307282 A1**(43) **Pub. Date: Oct. 25, 2018**(54) **SYSTEM FOR DISCHARGING HEAT OUT OF HEAD-MOUNTED DISPLAY BASED ON HYBRID FAN AND HEAT PIPE**(71) Applicant: **Oculus VR, LLC**, Menlo Park, CA (US)(72) Inventors: **Boyd Drew Allin**, Seattle, WA (US);
Robin Michael Miller, Redmond, WA (US)(21) Appl. No.: **15/491,522**(22) Filed: **Apr. 19, 2017****Publication Classification**(51) **Int. Cl.**
G06F 1/20 (2006.01)
H05K 7/20 (2006.01)(52) **U.S. Cl.**CPC **G06F 1/203** (2013.01); **H05K 7/2099**
(2013.01); **H05K 7/20172** (2013.01); **H05K**
7/20336 (2013.01); **H05K 7/20972** (2013.01)

(57)

ABSTRACT

A head-mounted display (HMD) includes a hybrid fan, a printed circuit board (PCB) with one or more electronic components and a heat pipe to dissipate heat. The hybrid fan has a center axis extending from a rear side of the HMD to a front side of the HMD. The hybrid fan pulls air from a rear side of the HMD. The heat pipe has an end coupled to the PCB. The heat pipe partially surrounds a periphery of the hybrid fan and transfers heat away from at least the PCB. The HMD further includes a side cover and a front cover. The side cover encloses the hybrid fan, the PCB and the heat pipe. The front cover is attached to the side cover with a slit between an outer edge of the front cover and an outer edge of the side cover to discharge air from the hybrid fan.

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